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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,053	03/30/2001	Milind M. Buddhikot	554-251(Buddhikot 2-1-4-2	8989

46363 7590 07/27/2005

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EXAMINER	
SIDDIQI, MOHAMMAD A	

ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/823,053	MILIND M. BUDDHIKOT	
	Examiner	Art Unit	
	Mohammad A. Siddiqi	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11,13,14 and 19-21* is/are pending in the application.

4a) Of the above claim(s) *15-18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11, 13-14, 19-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-21 are presented for examination. Claims 15-18 have been withdrawn for further consideration. Claim 12 is cancelled.

2. Applicant's election without traverse of Group I (claims 15-18, 19-21) in the reply filed on 09/08/2004 is acknowledged.

Claim Rejections - 35 USC § 102

> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1-7, 9-11, 13-14, and 19-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Wolf et al. (6,463,508) (hereinafter Wolf).

4. As per claim 1, Wolf discloses In a network, a method for segmenting a streaming multimedia clip into a plurality of sequentially organized data segments of exponentially increasing size and distributing said streaming

multimedia clip from an origin server to a plurality of streaming caches which comprise a distribution set in said network (abstract, col 2, lines 26-47), the method comprising the steps of:

determining a size (L) of the multimedia clip (fig 3, col 4, lines 1-15);

segmenting the streaming multimedia clip into a plurality of data segments of exponentially increasing size (fig 10, col 1, lines 7-11, col 4, lines 1-15, col 8, lines 27-39); and

distributing the plurality of data segments from the origin server to said plurality of streaming c aches, wherein an i-th data segment is distributed in an i-th distribution round to each of said plurality of streaming caches (fig 1, 3, 10,col 3, lines 1-67, col 4, lines 1-14).

5. As per claim 2, Wolf discloses wherein the size of an i-th data segment is computed as L/2.sup. (N+1-i) where N is the total number of segments, and where i is an index defining each of the N segments, (i=1,2, . . . , N) (fig 10, col 8, lines 27-39).

6. As per claim 3, Wolf discloses wherein the size L of the multimedia clip is measured in units of time (col 2, lines 26-37, col 4, lines 1-14).

7. As per claim 4, Wolf discloses wherein the segmenting step further comprises the steps of: determining in an m-th distribution round if a data segment of said multimedia clip is equal to or greater than a predetermined threshold value (col 7, lines 5-10), said m-th data segment referred to as a threshold data segment (fig 10, col 1, lines 7-11, col 8, lines 20-48); and dividing a remaining undivided portion of said multimedia clip into data segments having a predetermined segment size if the data segment of said multimedia clip is equal to or greater than a predetermined threshold value (fig 10, col 1, lines 7-11,col 8, lines 26-37).

8. As per claim 5, Wolf discloses wherein said remaining undivided portion is divided into data segments in successive rounds having an index m+1 through N (fig 10, col 7, lines 43-67, col 8, lines 1-39).

9. As per claim 6, Wolf discloses wherein the predetermined segment size is equal to the size of the threshold data segment (fig 10, col 1, lines 7-11, col 8, lines 20-48, col 7, lines 5-10).

10. As per claim 7, Wolf discloses wherein the predetermined segment size is computed as: 2.sup. (r-1) *. delta.where. delta.=L/2.sup.(N-1) the size of a first segment; and where r is a user adjustable

parameter to determine the segment size for those fixed segment which occur once the predetermined threshold has been reached (delta = initial segment size, col 4, lines 1-26, col 8, lines 10-48).

11. As per claim 9, Wolf discloses wherein the values for .delta., r and m are determined by an origin server aware scheme (col 4, lines 1-26).

12. As per claim 10, Wolf discloses wherein the values for .delta., r and m are determined by inter-cache communications in an origin server transparent scheme (col 4, lines 1-26)..

13. As per claim 11, Wolf discloses wherein the distributing step further comprises the step of: at each of said plurality of streaming caches, storing an i-th data segment of said streaming multimedia clip with probability equal to 1/2.sup.(i-1) in an i-th distribution round, where i=1,2, . . . , N (col 4, lines 1-67, col 7,lines 1-67).

14. As per claim 13, Wolf discloses a method of distributing a segmented streaming multimedia clip among a plurality of streaming caches, comprising the steps of: at each of said streaming caches: storing an i-th data segment

of the segmented streaming multimedia clip with probability equal to 1/2.sup.(i-1) (fig 10, col 4, lines 1-14,col 8, lines 10-39).

15. As per claim 14, Wolf discloses further comprising the step of: storing an i-th data segment of said segmented streaming multimedia clip with probability equal to .left brkt-top.1/2.sup.(i-1).right brkt-top.* e(x), where e(x) is a constant that is proportional to a popularity rating of the clip, where 0.ltoreq.e(x).ltoreq.1 (least value have highest popularity rating, fig 9, col 7, lines 43-67, col 8, lines 1-39) .

16. As per claim 19, Wolf discloses a system for segmenting, distributing and replacing segments of streaming multimedia clips in a network, comprising: at least one origin server storing said streaming multimedia clips (fig 1, col 3, lines 18-40);

a plurality of streaming caches in communication with said at least one origin server said plurality of streaming caches defining a distribution set (see abstract, col 8, lines 10-48);

first processing means associated with said at least one origin server for segmenting the streaming multimedia clip into a plurality of data segments of exponentially increasing size and for distributing said plurality

of data segments to each of said plurality of streaming caches (col 4, lines 1-26); and

second processing means associated with each of said plurality of streaming caches for storing data segments received from said at least one origin server in a SC and for replacing said stored data segments from said SC (abstract, col 7, lines 1-67).

17. As per claim 20, Wolf discloses wherein said second processing means further comprises means for computing a potential function for each stored data segment for replacing segments (col 7, lines 5-20).

18. As per claim 21, Wolf discloses wherein said second processing means further comprises means for computing a probability to determine whether to store or discard each data segment received from said at least one origin server (col 7, lines 1-67).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

> matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

20. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf et al. (6,463,508) (hereinafter Wolf) in view of Eberman et al. (6,173,287) (hereinafter Eberman).

21. As per claim 8, Wolf is silent about wherein delta is on the order of 5 to 30 seconds. However, Eberman discloses delta is on the order of 5 to 30 seconds (col 21, line 66). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Wolf with Eberman because it would provide efficient segment caching and will provide technique to pre-fetch request to obtain the remaining blocks for segments which are not currently cached.

Response to Arguments

22. Applicant's arguments filed 09/08/2004 have been fully considered but they are not persuasive, therefore rejections to claims 1-11, 13-14, and 19-21 is maintained.

23. Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

24. In the remarks applicants argued that:

Argument: Wolf does not disclose distributing the plurality of data segments from the origin server to said plurality of streaming caches, wherein an i-th data segment is distributed in an i-th distribution round to each of said plurality of streaming caches.

Response: Wolf discloses distributing the plurality of data segments from the origin server to said plurality of streaming caches (content server distributing via proxy server cache management, fig 1, col 3, lines 18-25) wherein an i-th data segment (fig 3, col 4, line12) is distributed in an i-th distribution round to each of said plurality of streaming caches (fig 1, 3, 10,col 3, lines 1-67, col 4, lines 1-14).

25. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Wolf discloses caching media object segments upon the client request and suggests finding a beginning of the segment (see abstract). Eberman teaches how to calculate the relevant starting position of the multimedia stream. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Wolf with Eberman because it would provide efficient segment caching and will provide technique to pre-fetch request to obtain the remaining blocks for segments which are not currently cached.

Conclusion

26. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad A. Siddiqi whose telephone number is (571) 272-3976. The examiner can normally be reached on Monday -Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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